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DIVISION OF OIL, GAS AND MINING

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March 28, 1994

TO: Minerals File

FROM: Tony Gallegos, Reclamation Engineer aaj

RE: Site Inspection, Geneva Steel Company, Iron Mountain Mine, M/021/008, Iron County, Utah

Date of Inspection: March 25, 1994
Time of Inspection: 0915 - 1345
Conditions: Overcast, cold, intermittent snow/rain
Participants: Roy Benson, Jerry Grover, Lance Hale, Geneva; Travis Jones, Tony Gallegos, and Wayne Hedberg, DOGM

Purpose of Inspection: To visit portions of the mine site which were described in the Division's December 22, 1993 amendment review letter, in order to clarify or resolve the related permitting issues.

This memorandum describes details of the actual inspection and includes information from the December 22, 1993 letter, which is pertinent to the areas inspected. Photographs were taken of the locations visited.

The first sites visited were the Anthill Area and the general location for the North Dump (future expansion). The relevant issues at the Anthill area are: (1) is the Anthill material a suitable topsoil material? (2) how much of the Anthill area will be redisturbed for use as topsoil substitute? and (3) what areas would receive Anthill topsoil. From this location the outslopes of the dump reclaimed in 1980 are visible. The Anthill area has become partially revegetated naturally. Roy Benson mentioned we were standing on a large ore body that could prove economic to mine in the future. Access problems limited our ability to go directly out to the North Dump (future) expansion area. Nothing has occurred in this area yet.

The next site visited was the Mountain Lion portion of the Mountain Lion/Comstock Pit. The relevant issues at this location are: (1) a request for a variance from highwall safety berms, and (2) a continuation of a variance for highwall angles steeper than 45 degrees. The planned pit development includes deepening by approximately 400 feet from the current pit floor elevation. The pit highwalls are currently standing at the final pit design. The angle is estimated to be close to 75 degrees. Geneva is currently mining in two 37-foot lifts or three 25-foot lifts which leave a final vertical distance between benches of 75 feet. Benches are initially mined at approximately 35-foot widths. Water is currently being pumped out of an in

pit sump at @400 GPM. Mr. Benson indicated that the pit inflow follows the West Ore contact and is associated with a localized fault zone along the contact. This water is allowed to drain into the YJ pit where it eventually seeps into the local groundwater system. Geneva is not required to have a NPDES permit since the water is not conveyed off their property. Geneva does not have a water quality monitoring program. The mine was not in operation during this inspection. However, a caterpillar dozer was performing some road grading/construction activity adjacent to the Comstock rail loadout area. Large stockpiles of ore were being used to supply the current ore demands.

Geneva is requesting a variance from safety berms or catch-benches within the Mountain Lion pit. Due to faults or other geologic discontinuities, Geneva has not been able to maintain/hold catch benches in selective portions of the highwalls. The catch benches are typically spaced every 75 vertical feet and are initially about 35 feet wide. The majority of these areas where the catch benches have fallen are located on the northwest highwalls (southeast facing aspect). While the Division has a general concern regarding these catch benches, it is MSHA who specifically has jurisdiction over the areas of worker safety during operations. The Division's rules focus more on final reclamation features such as safety berms to prevent public access to the top of a pit highwall. The Mountain Lion pit has virtually no public access above the highwalls and, therefore, safety berms are not necessary. In this case, Geneva's variance request is not necessary.

The issue of a continuation of the existing variance of highwall angles greater than 45 degrees was discussed. Given that the pit is currently 200+ feet deep at an angle of nearly 75 degrees, it would be unreasonable to require Geneva to reduce the highwall angle to 45 degrees for the remainder of the operations. The pit was originally designed to achieve a certain depth by using a conic shaped excavation with the steepest highwall angle allowed. This was done in order to minimize excavation of overburden material. Therefore, a continuation of this highwall variance should be acceptable to the Division.

The next site visited was the Comstock section of the pit. This portion of the pit has the same problems with portions of the catch benches as the Mountain Lion pit. The Comstock essentially has the same pit highwall designs as the Mountain Lion pit. Because of the similarity in conditions between the two pits the same variances would apply. However, a portion of the Comstock highwalls may prove accessible to the public and will. therefore. require safety berms at the top of the highwalls.

The next site visited was the Mountain Lion Dump. We drove past the Lean Ore Stockpiles on the way to the Mountain Lion Dump. Relevant issues at this site are: (1) reclamation and revegetation standards for the angle of repose slopes on the Mountain Lion Dump and the Lean Ore Stockpiles; (2) salvage of topsoil from the footprint of the dump or use of the Anthill material as a topsoil substitute; and (3) the postmine land use of a road accessing USFS land by crossing Geneva's property. Some vegetation is currently growing on the portions of the dump top which have been inactive for several years. A portion of the USFS road will be covered by expansion of this dump in the future. The Lean Ore Stockpile

is located on the eastern edge of the Mountain Lion dump. Geneva currently uses the USFS road to access the water spigot at the Blowout pit for filling their water trucks.

Geneva has agreed to place topsoil material on the top of the Mountain Lion dump as part of the reclamation plan. Geneva provided soil analyses of the Anthill material to the Division. The Division now understands the request for the postmine use of the road connecting to the USFS road. The USFS will need to be contacted.

The next site visited was the Chesapeake/Excelsior pit. Mining at this pit apparently ceased in 1991(?). Issues at this site are: (1) determining appropriate reclamation requirements for a site permitted under a small mining notice of intention, but exceeding five acres; (2) a description of the dump slopes and proposed stabilization for seeding; (3) variances requested after mining has ceased for; a) revegetation and/or stabilization of steep dump slopes, b) highwalls steeper than 45 degrees; and (4) the postmine land use of the FAA road.

Several suggestions for reducing the Chesapeake/Excelsior Pit highwalls to a lessor angle were discussed. All suggestions involved combinations of drilling, blasting and regrading. Some wasterock is currently stockpiled above the pit highwall. This material could be pushed over the highwall and/or into the road cut after blasting. One option would be to doze through the wasterock piles to gain equipment access to the area above the north facing highwall for drilling and blasting. The highwall area to the northwest would also be drilled for blasting. After these two sections of highwall were blasted, the wasterock material could be pushed onto the talus slope and then seeded. A relatively small bench above the dump slope could probably be regraded to approximate original contours with a dozer. The slope of the waste dump will be difficult to reclaim due to the steep terrain and lack of reasonable access by equipment to the slope. Hydroseeding and hydromulching may be the only alternatives.

The top of the dump was showing tension cracks parallel to the shape of the outslope. Some slumping of the dumped materials has also occurred. Keeping excess water from entering or running over the face of this slope may be critical in minimizing/preventing continued slumping and erosional problems. Contouring/grading the top of the dump slope to drain back toward the pit somewhat and then out to either side of the dump may help in this regard.

The spur road from the FAA road to the Chesapeake/Excelsior site will need to be reclaimed. Geneva indicated that a portion of the road to the site was existing; however, the current road is much wider than the original. Geneva did not want to be held responsible for the lack of topsoil salvage in this predisturbed area. A variance request for a one track road to remain accessing the auxiliary road located adjacent to (southeast of) the mine site area was also discussed. The main haul/FAA road does have a postmine land use; however, the road width will need to be reduced to one lane width by pulling material from the outslope back onto the road and revegetating. The runaway truck lanes will also need to be reclaimed.

The next site visited was the Tip Top Pit. Mining at this pit ceased in 1992(?). The issues at this site are: (1) reclamation of the steep dump slopes and/or variances for stabilization and revegetation standards after mining has ceased; (2) variance request for highwalls after mining has ceased; and (3) a postmine land use of the pit area as storage for the radio transmitter. There are two main dump slope sections. One dump section faces the east. A small bench approximately 15 feet high prevents vehicle access to the east facing dump. The other dump section is larger and spans from the north to the west. The west portion of the dump section ties in with the fill outslope of the access road. Tension cracks are present on the top of both dump sections. The tension cracks in the larger dump run for nearly the entire perimeter of the dump. Some cracks are as deep as 2 or 3 feet. There are two highwall sections. One highwall section faces the north and the other faces the west-northwest. These highwalls are connected.

Due to the close proximity of the KSUB radio transmitter and the Iron County Bus System transmitter, it is only safe for Geneva to blast the north facing highwall as part of the highwall reduction stabilization/reclamation. The steep and unstable dump slopes at this location will be more difficult to reclaim than the dump slopes at the Chesapeake/Excelsior area. Because the dumps appear to be unstable (still settling), it may be wise to wait a year or more before attempting to revegetate the slopes. Geneva suggested calculating the reclamation surety for this portion of the mine area on a worst case scenario and retaining those monies until the site is reclaimed.

The next site visited was the Iron Mountain processing area. Issues at this site are: (1) designating a post-mine land use for certain roads; (2) restricting access to the open pits; and (3) final reclamation plans for the remaining stockpiled fines and rejected cobble materials resulting from the wet magnetic separation activities.

Public access is prevented to this area by locked gates. Stockpiles of processing fines are present at this site. These fines and the rejected cobble pile materials are gradually being sold off to cement companies and the county for road base use. Water is being pumped from the Blowout pit to a collection pond for dust suppression use at the mining areas. The processing area is presently in an inactive state. During the inspection, two men drove onto the site and expressed an interest in the reject stockpile located near the processing fines. We drove past the Blowout Pit and soil material stockpiled for reclamation. This soil material was salvaged from the nearby sediment pond created to trap sediments generated from the wet magnetic separation processing. We also drove past the Blackhawk and Pinto Pits all containing water, then past the Burke(?) Fines and Blackhawk Fines area. We could not gain road access to the Burke Pit due to a slump that has covered a portion of the road leading to the pit.

The inspection concluded with the understanding that the Division would send Geneva a copy of the inspection memo. The Division was also to provide a draft itinerary of locations to visit with the Board on the upcoming Geneva Board Tour.

jb
cc: Roy Benson, Geneva
Jerry Grover, Geneva
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